

Work Order ID 50892

July 24, 2009 6:34:20 AM

Page 1

Item ID: D6008-132

Accept

Revision ID: A

Item Name: Crosstube extrusion

Start Date: 7/27/09

Start Qty: 20.00

Required Date: 10/09/09

Req'd Qty: 20.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D6008

Rev A

100

0.00

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 10125 ☐ a) Order as per Dwg D6008 ☐ b) Material: 3.250 x 0.438 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube ☐ c) Minimum ultimate tensile strength = 77 ksi ☐ d) Minimum tensile yield strength = 66 ks

110

Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

120

QC6- Inspect dimensions to drawing

0.00

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6005

2) S or L or 2s

no markings found on inside of extrusion 8/1/22

(13)

10/1/25 (13)

8-07-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 50892



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July 24, 2009 6:34:20 AM

Item ID: D6008-132

Accept



Setup Start



Revision ID: A

Stop



Item Name: Crosstube extrusion

Start Date: 7/27/09 Start Qty: 20.00



Cust Item ID:

Required Date: 10/09/09 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
	HandFinish	0.00							
	Hand Finishing								
	<i>09/10/01</i>	<i>N/A</i>							
40	QC3- Inspect Part Finish	0.00							
	QC	0.00							
	Quality Control								
150	Identify as per dwg & Stock Location <i>PG</i>	0.00							
	Packaging	0.00							
	Packaging								

0.00 09.10.01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 50892

July 24, 2009 6:34:20 AM



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Item ID: D6008-132

Accept



Setup Start



Revision ID: A

Stop



Item Name: Crosstube extrusion

Start Date: 7/27/09 Start Qty: 20.00



Cust Item ID:

Required Date: 10/09/09 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

09/10/01
MF 0970001

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July 24, 2009 6:34:19 AM

Page 1

Work Order ID: 50892



Parent Item: D6008-132RevA



Parent Item Name: Crosstube extrusion

Start Date: 7/27/09

Required Date: 10/09/09

Comments:

Start Qty: 20.00

Required Qty: 20.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6008-132PRevA		Purchased	No			110	Each	0.0000	20.0000			
Crosstube extrusion												

Legg 25 (13)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

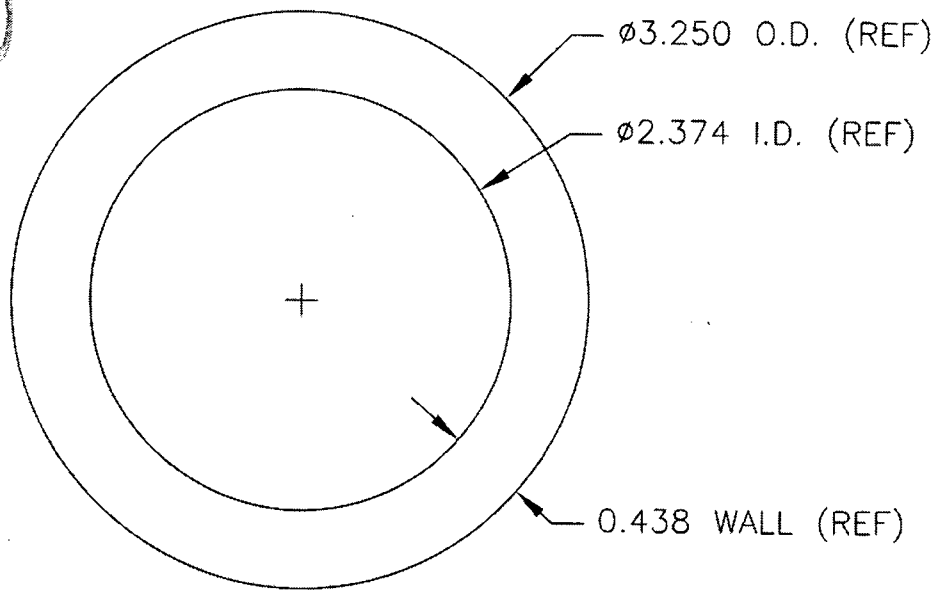
ufo 50842



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 #



NOTES

- 1) D6008-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 180" LONG TUBE: D6008-180

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (± 0.016 INCLUDING OVALITY)
WALL: ± 0.020 MEAN (± 0.044 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO10125

Purchase Order Date 7/24/09

PO Print Date 7/24/09

Page Number 1 of 1

Order From :

VE-ALU001

ALUMINIUMWERK UNNA AG
UELZENER WEG 36, 59425 UNNA,
GERMANY,
DE

Contact Name		Buyer	Linda Lacelle
Vendor Phone	303 755 5672	Requisition Nbr	
Vendor Fax	303 755 5936	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	USD
		FOB	

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6008-132P A	Crosstube extrusion	10/09/09 Yes	20.00 Each	Yours ppd	\$897.0000	\$17,940.0
		Special Inst:	PER DRWG D6008 REV.A MATERIAL: 3.250 .0438 WALL X 132"L 7075-T6/T6511 (WW-T-700/7 OR QQ-A- 225/9 OR QQ-A-200/11) SEAMLESS ALUM. TUBE MIN ULTIMATE TENSILE STRENGTH=77KSI MIN. TENSILE YIELD STRENGTH=66KSI				
2	D6019-128P A	Crosstube Material	7/24/09 Yes	20.00 Each	Yours ppd	\$567.0000	\$11,340.0
		Special Inst:	PER DRWG D6019 REV A MATERIAL: 2.750 X 0.313WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A- 225/9 OR QQ-A-200/11) SEAMLESS ALUM TUBE MIN ULTIMATE TENSILE STRENGTH=77KSI MIN TENSILE YIELD STRENGTH=66KSI				

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

PO Total: \$29,280.0

Change Nbr: 1

Change Date: 7/24/09

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Produkt: Rohre nahtlos gepresst

Product / Produit: Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11; -

Specification:

Werkstoff: 7075

Alloy/Alliage:

Abmessung 3,250 INCH x 2,374 INCH x 0,438 INCH x 132,000 INCH

Size / Dimension D6008-132 3.250 X 0.438 X 132

Kennzeichnung ALUnna-CERT NO. 793/09-7075-T6511-CAST NO. 82336-AMS-QQ-A-200/11-3.250" OD X 0.438" WALL-HEAT-LOT

Marking/Marquage: NO. 400149-ALUNNA ORDER CONF.NO. 33209/1-1.P.O.10125

Zeugnisnummer: 793/09

Cert No. / No. du certificat:

Bestellnummer: PO10125

Order No. / No. de commande

Auftrag: 33209/1

Our Reference/Notre Reference:

Zustand: T 6511

Temper/Etat:

Lieferung

Delivered Material / Matériel délivré:

Stück

kg

12

282,00

Products are in accordance with applicable RoHS

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
82336	0,08	0,16	1,48	0,04	2,44	0,22	5,85	0,03	0,01	0,03	0,01	0,01	0,01

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	81,0	73,0	7,0			
max.						
1	85,695	78,880	10,0		171	400149 - 12 pcs.

max. RMS 25 - max. 7,40 µ"

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

03.09.2009 / kocur



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003

valid until 2010-11-11

Cert.- Reg. No.: 001959 QM; 001959 ASH



AlUnna

Abnahmebeauftragter

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany



Boxmarking:

We hereby declare that the wooden packing material are totally free from bark and apparently

free from live plant pests

S:\VERSAND\USA_Packliste\33209_1a

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.
Client: 1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 793/09
Cert No. / No. du certificat: PO10125
Bestellnummer:
Order No. / No. de commande:
Auftrag: 33209/1
Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst
Product / Produit: Tubes seamless extruded
Spezifikation: AMS - QQ - A - 200/11; -
Specification:

Zustand: T 6511
Temper/État:

Werkstoff: 7075
Alloy/Alliage:
Abmessung: 3,250 INCH x 2,374 INCH x 0,438 INCH x 132,000 INCH
Size / Dimension: D6008-132 3.250 X 0.438 X 132

Kennzeichnung: CERT.NO. 793/09-ALUnna-7075-T6511-CAST NO. 82336-AMS-QQ-A-200/11-3.250" OD X 0.438" WALL-HEAT LOT
Marking/Marquage: NO. 400149-ALUnna ORDER CONF.NO. 33209/1-2-P.O. 10125

Lieferung: pcs. lbs
Delivered Material / Matériel délivré: 1 51
Country of Manufacture: Germany
Products are in accordance with applicable RoHS

1. Chemische Analyse Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
82336	0,08	0,16	1,48	0,04	2,44	0,22	5,85	0,03	0,01	0,03	0,01	0,01	0,0001

Hydrogen content: 0,1 ccm/100 g Al Elements without indication < 0,01 % country of melt manufacturer: Germany

2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	81,0	73,0	7,0			
max.						
1	85,695	78,880	10,0			400149 - 1 pc

max. RMS 25 - max. 7,40 µ"

Ergebnis der Prüfungen:

Test results:
Resultats:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order
Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KrampeR

17.09.2009



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003
valid until 2010-11-11
Cert.- Req. No.: 001959 QM; 001959 ASH

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

[Signature]
Abnahmebeauftragter

